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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/976,137	10/11/2001	Cathleen Joyce Webb	4775-1	9524
22442	7590	12/05/2003	EXAMINER	
SHERIDAN ROSS PC 1560 BROADWAY SUITE 1200 DENVER, CO 80202			CINTINS, IVARS C	
			ART UNIT	PAPER NUMBER
			1724	

DATE MAILED: 12/05/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 09/976,137	Applicant(s) WEBB ET AL.	
	Examiner Ivars C. Cintins	Art Unit 1724	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 11 August 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,3-25 and 27-63 is/are pending in the application.
- 4a) Of the above claim(s) 6,7,10,15-24 and 35-46 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,3-5,8,9,11-14,25,27-34 and 47-63 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.
a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ 6) ☐ Other: _____

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The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 52, 58 and 60-63 are rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor, at the time the application was filed, had possession of the claimed invention. The limitation that the pH of the water is in the range of approximately 3 to approximately 10 does not appear to be supported by the disclosure originally filed, and hence constitutes **new matter**. It is noted that on page 14, lines 2-3, of the specification a pH of between approximately 4 and 10 is disclosed, but nowhere does this specification suggest that the pH of the water can be 3.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1, 3-5, 8, 9, 11-14, 25, 27-34, 47-58 and 60-63 are rejected under 35 U.S.C. 103(a) as being unpatentable over Shaniuk et al. (U.S. Patent No. 6,030,537) in view of published Japanese patent application No. 1-127094. Shaniuk et al. discloses a process for removing arsenic from water, by contacting the water with an adsorbent material which is packed in a column (col. 3, lines 50-51). This reference also discloses that the adsorbent material can be formed into a cartridge (col. 3, line 67). This reference further teaches purifying the water to below 5 ppb arsenic (col. 2; line 21), and testing the treated water (col. 4, lines 37-

40). Accordingly, Shaniuk et al. discloses the claimed invention with the exception of the specific reactant material employed, its particle size (claims 47-51, 53-57 and 60-63), and the pH of the water undergoing treatment (claims 52, 58 and 60-63). Published Japanese patent application No. 1-127094 discloses adsorbing arsenic from a waste liquid with porous limestone. It would have been obvious to one of ordinary skill in the art at the time the invention was made to substitute the limestone of the secondary reference for the adsorbent material of the primary reference, since this secondary reference limestone is capable of adsorbing arsenic from a liquid in substantially the same manner as the adsorbent material of the primary reference, to produce substantially the same results. Also, it would have been obvious to one of ordinary skill in the art at the time the invention was made to employ limestone having the recited particle size, in order to ensure adequate contact between this limestone and the water undergoing treatment. Similarly, it would have been obvious to one of ordinary skill in the art at the time the invention was made to provide water having the recited pH values, in order to ensure that this water is safe for its intended use.

Claim 59 is rejected under 35 U.S.C. 103(a) as being unpatentable over Shaniuk et al. and published Japanese patent application No. 1-127094 as applied above, and further in view of Dobson (U.S. Patent No. 3,471,025). The modified primary reference discloses the claimed invention with the exception of the recited reactant configuration. Dobson teaches purifying a liquid with a filter having different particles sizes, and further teaches that the particles in the middle of the filter should be smaller than the particles at the inlet and outlet ends (see Fig. 1). It would have been obvious to one of ordinary skill in the art at the time the invention was made to arrange the limestone particles of the modified primary reference in the manner suggested by

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Dobson, in order to promote contact between these limestone particles and the water undergoing treatment in said modified primary reference.

Applicant's arguments filed August 11, 2003 have been noted and carefully considered but are not deemed to be persuasive of patentability. Applicant argues that Shaniuk discloses removing arsenic with a combination of materials prepared in a specific way, but does not suggest that any other adsorbent material would work, let alone limestone. It is pointed out, however, that published Japanese patent application No. 1-127094 clearly teaches adsorbing arsenic from a liquid with porous limestone; and given this teaching, one of ordinary skill in the liquid purification art would have been motivated to substitute the arsenic adsorbing material of the secondary reference for the arsenic adsorbing material of the primary reference, in the manner proposed above.

Applicant also argues that there is no disclosure in the published Japanese patent application of removing arsenic down to the levels suitable for human consumption. Again, this argument has been noted and carefully considered, but is not deemed to be persuasive of patentability. It is pointed out that Shaniuk et al. clearly discloses that drinking water should have arsenic levels less than 5 ppb (see col. 2, lines 19-20); and given this teaching, one of ordinary skill in the liquid purification art would have been motivated to employ a sufficient amount of limestone in the modified primary reference system in order to achieve this desirable low level of arsenic in the water treated by this system.

Applicant also argues that the method of the claimed invention does not require the addition of chemical agents such as ferric chloride, aluminum sulfate, magnesium nitrate, ferric hydroxide or glutaraldehyde to limestone, as disclosed in the Japanese patent application. Once

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again, this argument has been noted and carefully considered, but is not deemed to be persuasive of patentability because: (1) the comprising language of the claims does not preclude the addition of these other chemicals; and (2) these chemicals are added in the Japanese patent application system in order to increase the arsenic adsorbing capacity of the limestone material. Clearly, if such increased adsorption capacity were not desired, then it would have been obvious to one of ordinary skill in the liquid purification art to dispense with these additional chemicals, as well as all of the advantages associated therewith.

Applicant's amendment necessitated the new grounds of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to I. Cintins whose telephone number is (703) 308-3840. The examiner can normally be reached on Monday through Friday from 8:30 AM to 5:00 PM. If

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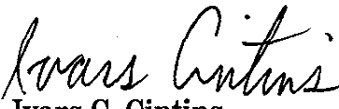
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attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mr.

Blaine Copenheaver, can be reached at (703) 308-1261.

The centralized facsimile number for the USPTO is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application should be directed to the Group receptionist whose telephone number is (703) 308-0661.


Ivars C. Cintins
Primary Examiner
Art Unit 1724

I. Cintins
December 1, 2003